From: Matt Spears
To: William Charmley; Angela Cullen
Cc: Justin Greuel; Jay Smith; Byron Bunker
Subject: SCR Equipped Engine Data from CD and CARB thoughts
Date: 09/05/2012 02:23 PM
Attachments: asd.xlsx
Low-NOx draft SOW 2012 09 04b.docx

Hi Bill,

Please see below the additional information on the cold-start/hot-start test data that CD had readily available (GM Duramax & DD13). I thought Jay did a nice job pulling this together quickly for us.

Deliberative Process / Ex. 5

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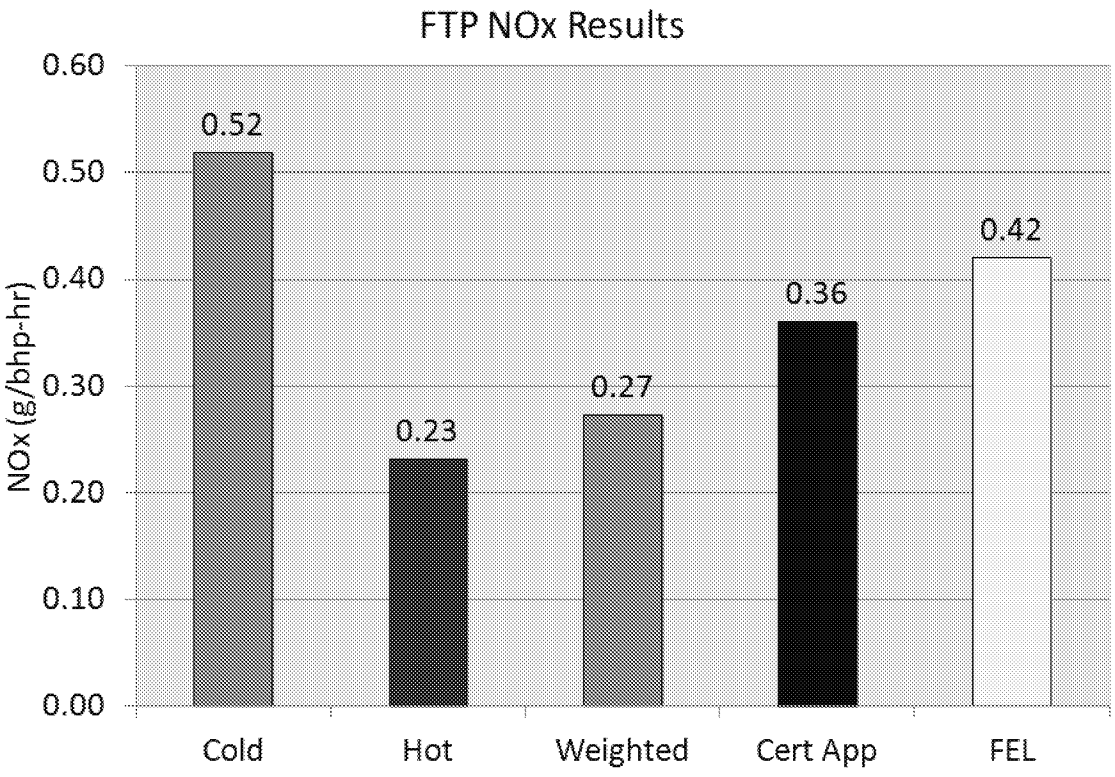
----- Forwarded by Matt Spears/AA/USEPA/US on 09/05/2012 01:58 PM -----

From: Jay Smith/AA/USEPA/US
To: Matt Spears/AA/USEPA/US@EPA, Angela Cullen/AA/USEPA/US@EPA
Cc: Justin Greuel/DC/USEPA/US@EPA
Date: 09/05/2012 01:51 PM
Subject: SCR-Equipped Engine Data

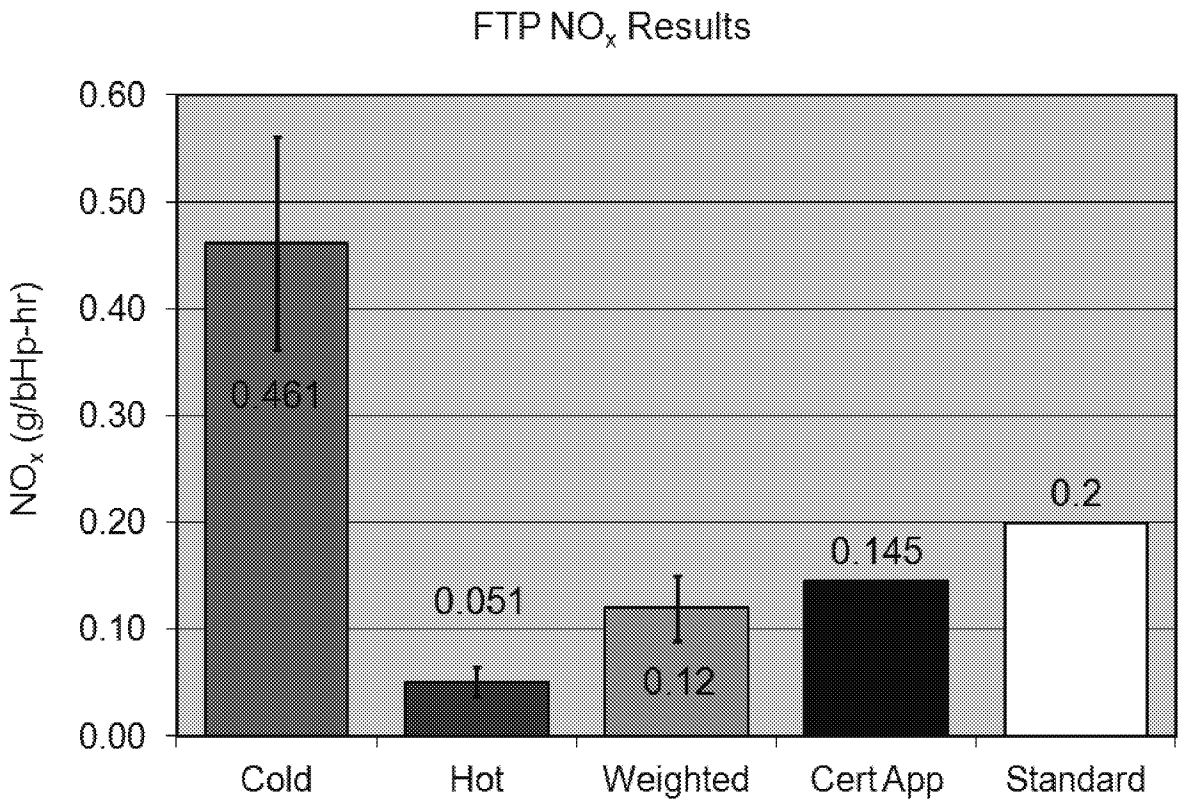
Hello Angela & Matt,

Here are the certification levels (which include DFs and IRAFs) for MY2012 SCR-equipped engines. As I mentioned, we do not collect separate cold and hot FTP results and the SET is only run as an RMC now, so there is no modal data available from that. Where there are two results for the FTP, they are composite results from two different tests. Also note that a number of these families are certified to FELs above the standard.

Here is a comparison of FTP data (2 cold/2 hot/2 pairs) from an audit we did on the GM duramax 6.6L:



Here is a comparison of FTP data (11 cold/17 hot/9 pairs) from testing of a 2010 DD13 that we conducted here. Since this is a 0.2 gram engine, you can see that the hot-FTP NOx levels are quite a bit lower. The cold results are pretty similar, however, which is more indicative of having less SCR activity on that cycle:



If you still have questions, please let me know.

Jay

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----- Forwarded by Justin Greuel/DC/USEPA/US on 09/05/2012 11:06 AM -----

From: Matt Spears/AA/USEPA/US
To: Byron Bunker/AA/USEPA/US@EPA, Justin Greuel/DC/USEPA/US@EPA, Angela Cullen/AA/USEPA/US@EPA
Date: 09/04/2012 11:05 AM
Subject: Range of latest SCR Cold-start FTP, Hot-start FTP, & SET cert values for HD NOx *for Margo & others' ARB meeting in CA this week*?

Hi Byron and Justin,

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To start to understand this better from a technology standpoint, would it be possible for CD to

share with ASD the range of the latest cert values for SCR-equipped engines for the Cold-start FTP, Hot-start FTP, and SET? For this request, the SET composite is fine, but eventually, we might want to understand the range of values for each mode in the SET. Thanks,

Regards,

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